Delving into the World Inside Prisons for Safety, Health, and Isolation*

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This social science research focuses on the impact of prisons on crime rates and socioeconomic disparities. However, the penal institutions are often disregarded, creating a significant gap in understanding its true effect. This paper takes a look at the prison, their function in rehabilitation efforts, their role as setting for violence, healthcare provision, and the isolation experienced in solitary confinement. Recent studies indicate that fewer inmates are involved in programs now compared to the 1980's, and prisoners face more violence, sickness, and isolation. These conditions question if prisons are really treating people with dignity and respect, and how these acts will affect people who recently joined the society again.

1 Introduction

This paper explores how prisons impact crime and inequality. Prisons are often overlooked compared to other institutions such as schools or hospitals. We are focusing on the US, where the concept of "mass incarceration" is a big issue, in other words there are a lot of people in prison, especially Black men with limited education. This mostly happens due to strict laws against Black men and inequality that rise upon the issue. Researchers have studied incarceration in various angles, examining its effects on how prisons affect crime rates, labor markets, health outcomes, and family dynamics. Despite debates over rehabilitation, it is still hard for them to get jobs and be accepted in society. This paper takes a unique perspective, where we view US penal institutions as "total institutions" where individuals face constricted control and minimal autonomy. We are exploring key issues such as overcrowding, violence, health challenges, and the harsh realities of solitary confinement. By understanding what happens inside prisons, we can gain a deeper understanding of the problems of mass incarceration and work towards making things better. → We can add details after we decide what data and model we are going to use (Ex. Rate has increased 80% over 1990 to 2020)

*Code and data are available at: https://github.com/siru1366/us-mass-incarceration.git.

The remainder of this paper is structured as follows. Section 2….

2 Data

2.1 Source

The paper used for replication is "Inside the Box: Safety, Health, and Isolation in Prison," which mainly analyzes the impact of prisons on safety and health, and specifically includes data from the new coronavirus pandemic.

Sourcebook of Criminal Justice Statistics, Bureau of Justice Statistics Report, Jail Inmates in 2018, U.S. Population FRED Data, World Prison Population Data, and Western B. and Pettit B data

2.2 Methodology

All data are not obtained directly through surveys or sampling statistics; rather, they are derived through meticulous processing and calculation based on pre-existing datasets.

mass incarceration.xlsx

incarceration 1925-2019

2.3 Features

mass incarceration.xlsx

incarceration 1925-2019 Year:1925-2019 Prison: integer number Prison rate per(100k) : easy to read and compare Jail Total Population Total Rate

world incarceration rates rate rate18

cumulative risk race :w(white) b(black) Lack of data on other ethnic minorities

education cohort risk

COVID-19 Cases in State and Federal Prison Systems.csv Prison System Incarcerated Tested Incarcerated Positive, Incarcerated Deaths, Staff Positive, Staff Deaths, Incarcerated Case rate per 1,000 Scrape Date Staff Case rate per 1,000 state

statepop.csv: sate abbreviation

all-states-history.csv:

2.4 Measurement:

Enrollment in Drug, Education, Job Training Programs, and Work Assignment, State Prisoners, by Region Original data comes from two prison questionnaires For example, the sample for the 2004 survey was drawn from two different documents. The primary archive includes a list of 1,549 state prisons from the June 30, 2000, BJS 2000 Census of State and Federal Correctional Facilities. The secondary archive includes 36 prisons open between June 30, 2000, and April 1, 2003. The sampling design required a stratified two-stage selection process. In the initial phase, 14 male and 7 female facilities were identified based on the gender ratio within prisons. The remaining facilities are divided into 16 levels based on geographic region and the male and female population within each prison. The weighting procedure involves assigning each inmate a base weight and three adjustment factors to obtain the final weight for the survey. Data was collected through face-to-face interviews with prisoners using computer-assisted personal interviewing techniques.

Cumulative COVID-19 Case Rates among Those in Prison and General Population, by State: March 2020 to January 2021

3 Result

3.1 Over trend

Mass incarceration, as outlined by Garland (2001), refers to the historical phenomenon characterized by exceptionally high rates of imprisonment, particularly affecting marginalized populations. It signifies the confinement of vast numbers of individuals within prisons, coupled with the enduring legal and financial barriers they encounter upon reintegration into society, as described by Younes (2014).

From 1925 to 1972, the incarceration rate in the United States exhibited a period of relative stability, punctuated by minor fluctuations. However, since the 1970s, the number of inmates in the U.S. has surged dramatically, increasing by over sixfold, as noted by Manza and Uggen (2006: 95). Following its peak in 2007, incarceration rates have seen a slight decline over the past decade. However, they remain approximately five times higher than the average rate observed throughout the 20th century.

This underscores the continued importance of mass incarceration as a pressing issue in the United States. It highlights the need for further research to fully examine its effects on various aspects including health, property ownership and personal growth. Furthermore, understanding its socioeconomic impact and exploring effective rehabilitation and reintegration strategies are important steps to address this multifaceted problem and build a more just and equitable society. Figure 1

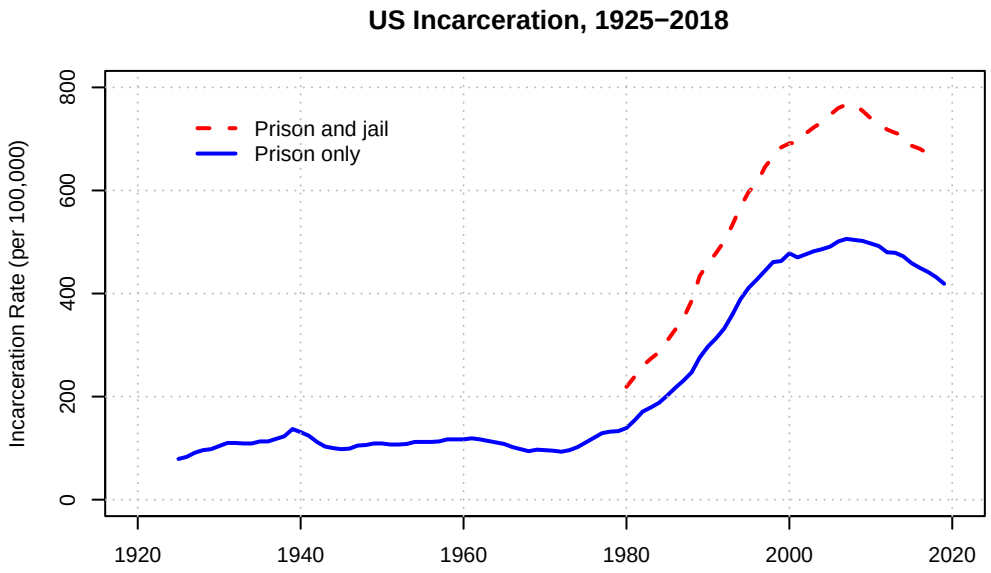

Figure 1: US Incarceration, 1925-2018

3.2 Comparing

In addition to examining the trajectory of incarceration rates within the United States over time, it is equally imperative to conduct horizontal comparisons by scrutinizing incarceration rates across different countries. Such comparisons enable us to discern whether mass incarceration is a global phenomenon or if it manifests as a more acute issue within the United States.

Data regarding prison population rates per 100,000 of the national population is accessible through the online public data platform World Prison Brief. This resource provides updated country information on a monthly basis, drawing primarily from governmental or other authoritative sources, thereby ensuring the data's timeliness and reliability.

After acquiring the most recent data, we encountered complexity in processing the information for over 200 countries. Consequently, we streamlined our analysis by selecting a subset of 20 representative countries. Subsequently, we utilized this refined dataset to generate informative charts and visualizations(Figure 2)

In addition to the United States, which serves as the primary focus of our research, the selected subset of 19 countries encompasses a diverse range of geographical locations across all seven continents. These countries represent various levels of development, including developed nations, developing regions, and areas classified as less economically developed. Moreover, the chosen countries vary in terms of land area, with some comparable in size to the United States, such as Canada and, to a lesser extent, Iceland. This diverse selection ensures a

comprehensive analysis that accounts for a wide spectrum of geographic, developmental, and size-related factors.

It can be readily inferred from graphical representations and pertinent research that the United States holds the title of the world's foremost incarcerator, detaining a higher percentage of its population than any other nation.

It is noteworthy that the incarceration rates (per 100,000) observed in the other 19 countries typically hover around 100. In stark contrast, the United States exhibits an incarceration rate exceeding four times this average. This significant disparity underscores the exceptional nature of the U.S. incarceration system compared to its international counterparts.

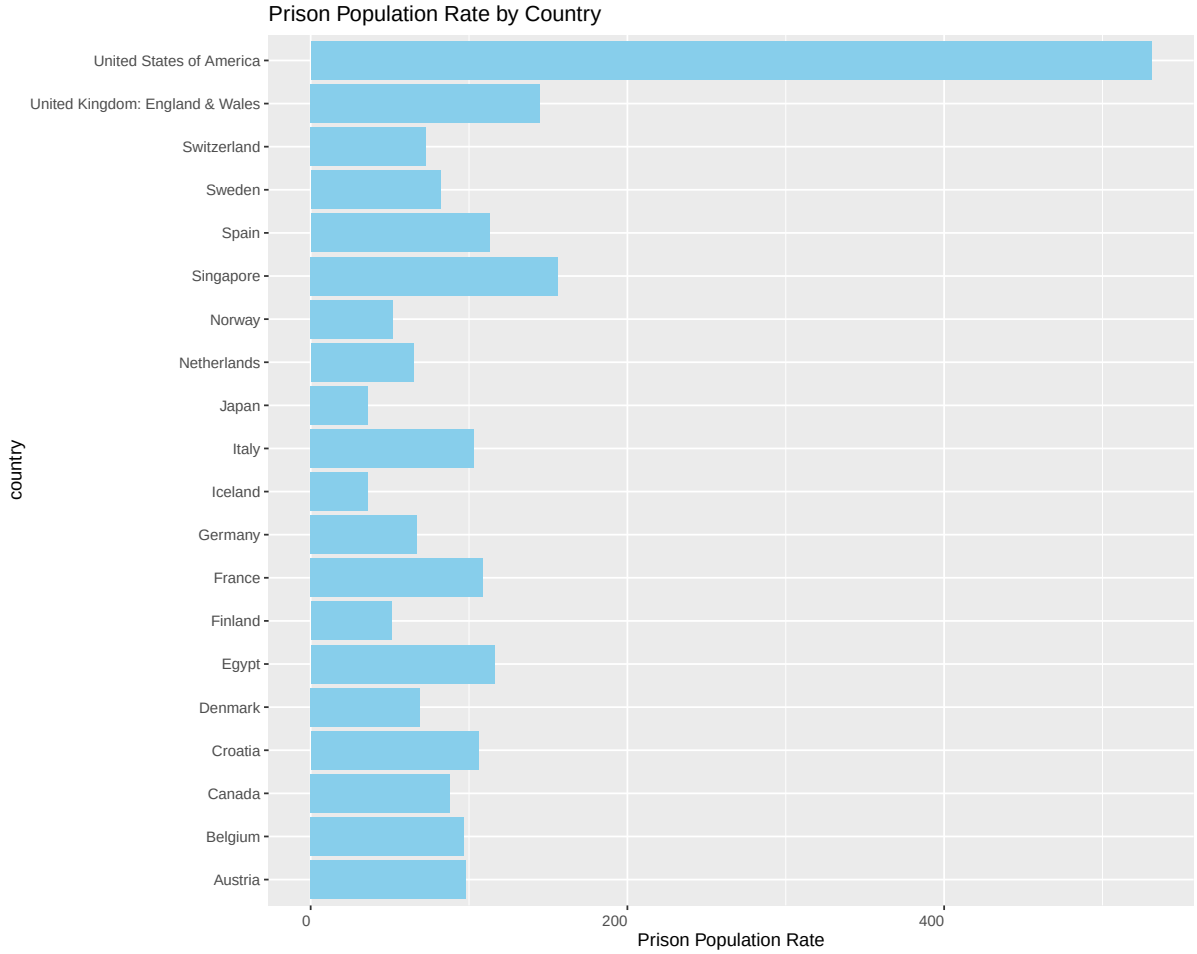

Figure 2: Relationship between wing length and width

4 Discussion

4.1 Cumulative COVID-19 Case Rates among Those in Prison and General Population

The closed and densely populated environment within prisons creates ideal conditions for the proliferation of large infectious diseases. The data stemming from the recent COVID-19 pandemic serves as a poignant illustration of this perspective, offering detailed insights into the heightened vulnerability of incarcerated populations to the rapid transmission and severe impact of contagious illnesses.

The prison population stands out as a high-risk demographic group during the coronavirus disease 2019 (COVID-19) pandemic. In addition to residing in environments that are inherently challenging for practicing "social distancing," individuals within prisons often exhibit advanced age and possess multiple comorbidities. These characteristics are reflective of punitive policies that are discriminatory in nature and implemented worldwide (Elbek (2020)).

When comparing the overall new coronavirus infection rate among the American population with the new coronavirus infection rate among prison inmates, a clear trend emerges according to the chart (Figure 5). In the majority of states in the United States, the data pertaining to infection rates among prison inmates surpasses that of the general population by a significant margin.

The significant number of individuals held in incarceration across the United States, combined with prevalent environmental conditions within correctional facilities—such as overcrowding, limited sanitation, inadequate healthcare access, subpar ventilation, and challenges in maintaining social distancing—have presented distinct and substantial challenges and risks for both incarcerated individuals and staff members throughout the pandemic (Nowotny et al. (2020)).

Novisky, Narvey, and Semenza (2020) indicates that the implementation of varied epidemic prevention policies across different states in the United States, alongside differences in the infrastructure of state prisons, has resulted in significant disparities in prisoner infection rates.

In addition to replicating the original data, we have incorporated a comparison of the COVID-19 infection rate among prison staff with the overall U.S. COVID-19 infection rate. According to the figure(Figure 6), the infection rate among prison staff surpasses the overall infection rate but remains lower than the new coronavirus infection rate among incarcerated individuals, positioning it roughly in the middle between the two. This observation underscores the vulnerable position of prisoners within correctional facilities during the pandemic.

4.2 Weaknesses

4.2.1 Bias in Data Analysis

On one hand, it's noteworthy that a considerable portion of data regarding U.S. prisons exclusively pertains to men, leading to the phenomenon referred to as "big dick data." This term underscores the prevalence of male-dominated datasets, which not only underscores systemic bias and marginalization, particularly towards women but also sheds light on existing power dynamics. The absence or marginalization of women in these datasets not only mirrors prevailing power structures but also perpetuates gender-based biases and stereotypes. Such gender disparity distorts our comprehension of reality, reinforces harmful stereotypes and inequalities, and presents substantial hurdles to data-driven decision-making (D'Ignazio and Klein (2020)).

On the other hand, when examining racial data, it tends to be categorized broadly into whites and blacks. This practice not only reinforces the binary opposition between these two racial groups in the United States but also overlooks the experiences of other ethnic minorities.

4.2.2 Measurement error

Utilizing data from various origins, a practice known as data fusion or integration, introduces complexities and hurdles that can result in measurement inaccuracies. Each dataset carries its unique biases, constraints, and inaccuracies stemming from variations in data collection methods, sampling approaches, measurement tools, and processing methodologies.

The amalgamation of data from disparate sources often introduces disparities in quality, consistency, and reliability, leading to inconsistencies or inaccuracies in the merged datasets. Moreover, issues like incomplete data, absent values, and misclassification errors can compound measurement inaccuracies.

4.3 future

On the one hand, similar data collection, statistical analysis, and comparative studies of Canadian prisons provide an attractive avenue for gaining insights due to Canada's geographic proximity to the United States and some shared cultural and legal frameworks. This similarity in land area and certain social aspects may allow for more meaningful comparisons and broader conclusions.

On the other hand, a comparison of prison data from smaller Nordic countries, represented by Iceland, gives a markedly different context. These countries tend to have very different social norms, legal frameworks, and approaches to criminal justice than North American countries. Factors such as smaller population sizes, different cultural attitudes toward crime and

punishment, and alternative approaches to rehabilitation may contribute to contrasting prison data.

Apart from large-scale studies, conducting small controlled experiments could offer valuable insights into the influence of different prison environments on the physical and mental well-being of inmates.

Studying the experiences of prison staff can provide insight into challenges within correctional facilities and facilitate the development of effective policies. Likewise, exploring the impact of incarceration on families can provide greater insight into broader social impacts, including emotional distress and financial stress. Including their voices in research and policy discussions is critical to addressing the complex issues surrounding incarceration and reentry.

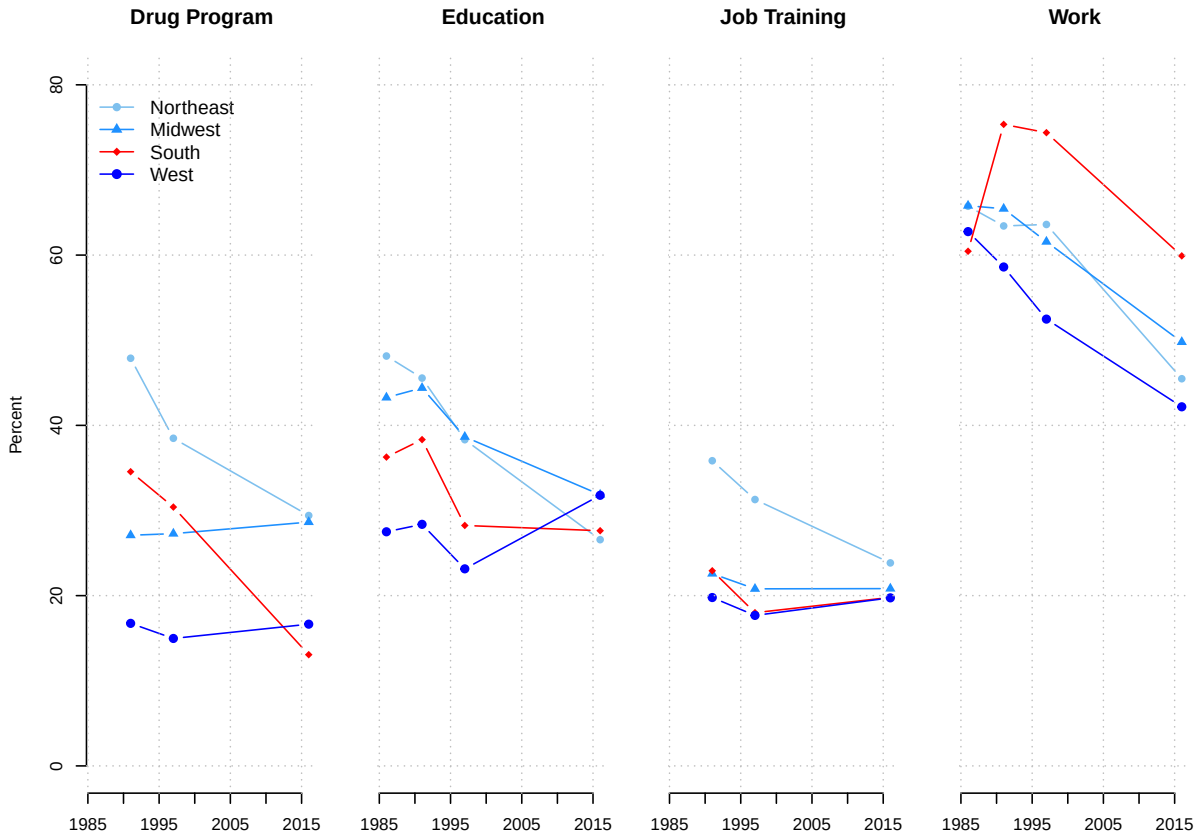

Figure 3: Relationship between wing length and width

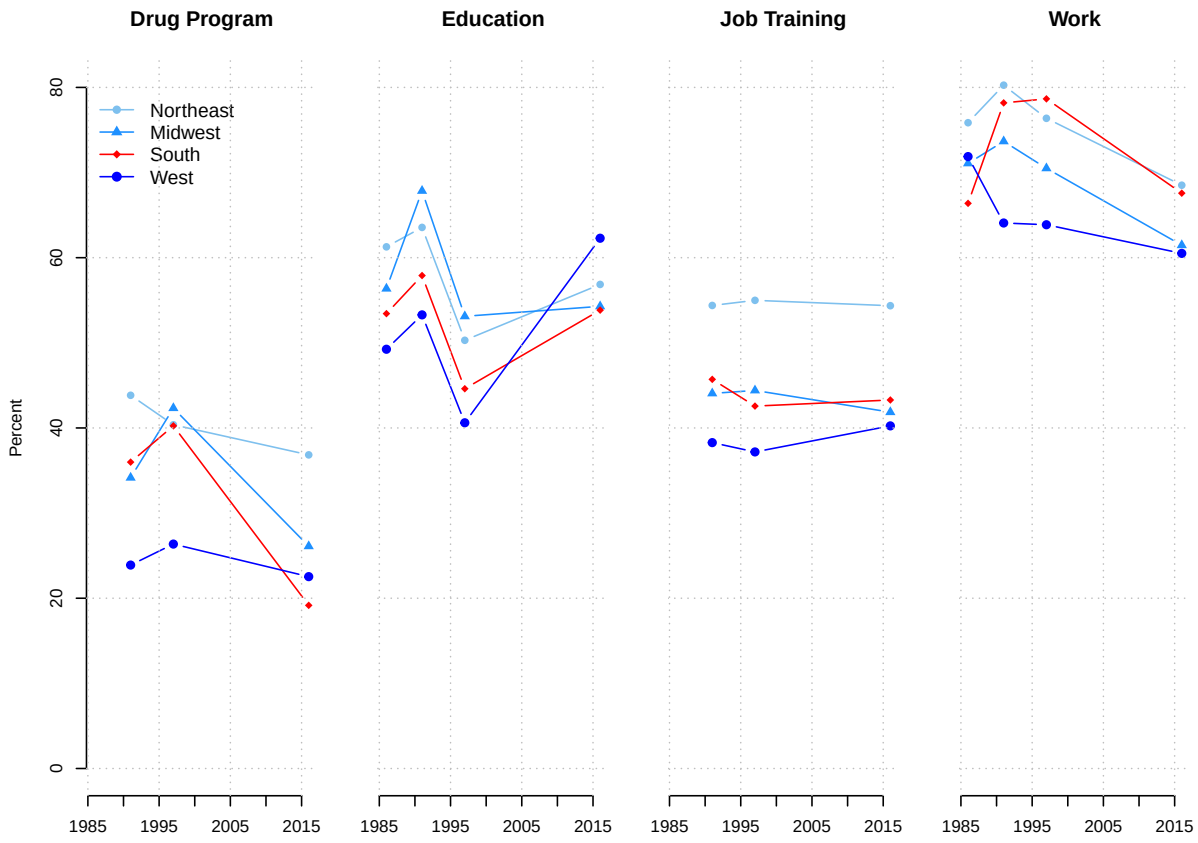

Figure 4: Relationship between wing length and width

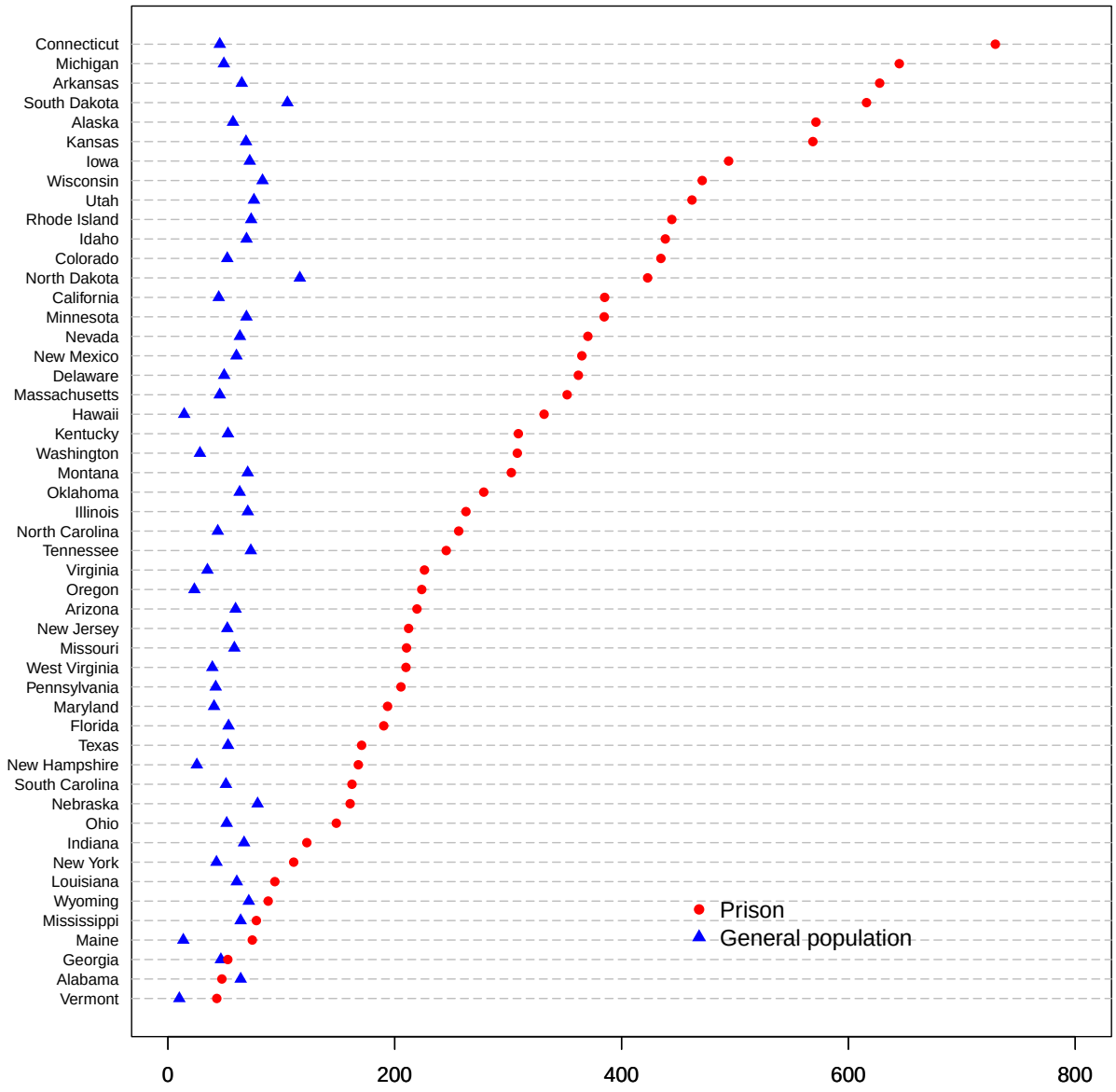

Figure 5: Cumulative COVID-19 Case Rates among Those in Prison and General Population, by State

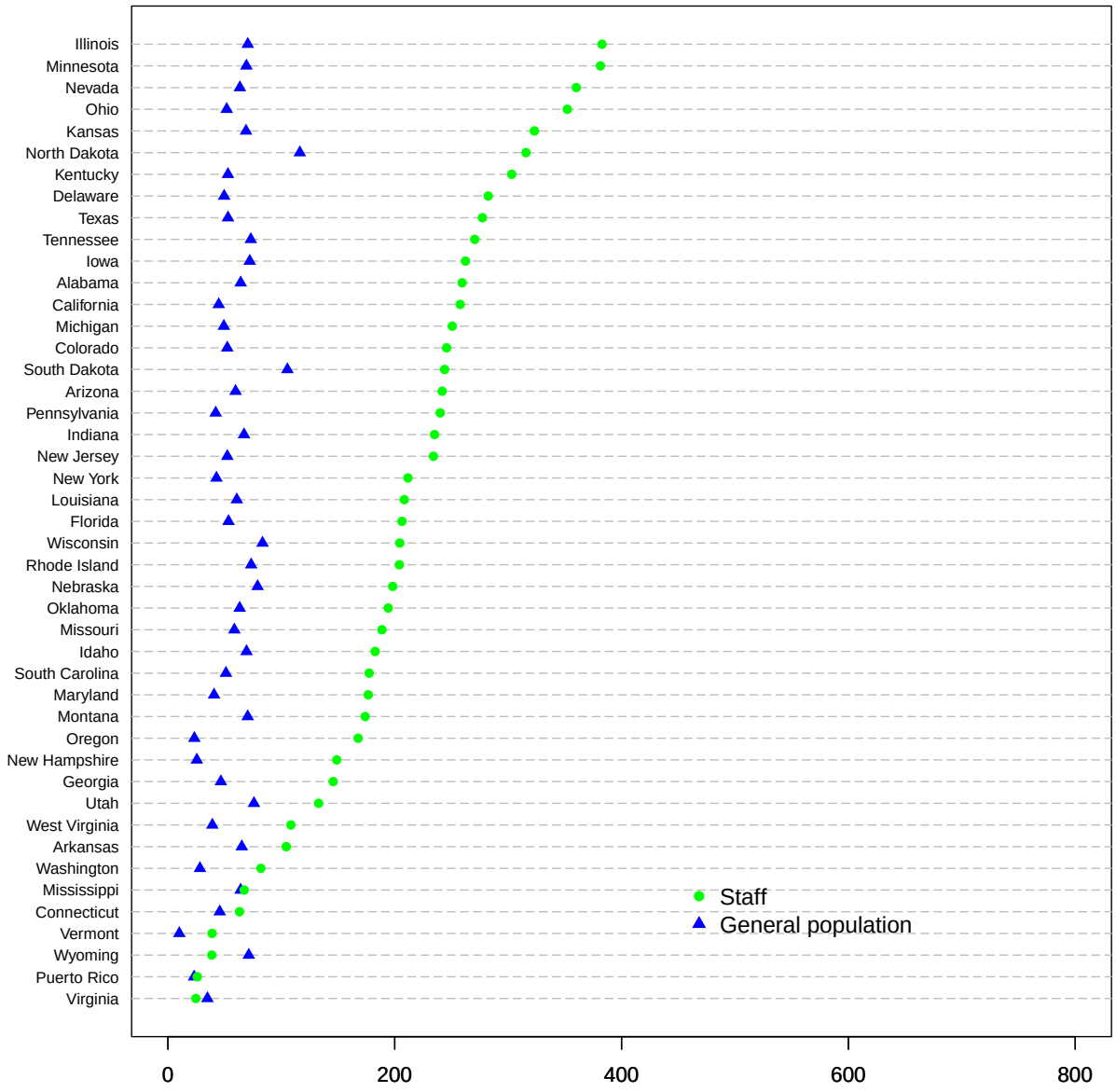

Figure 6: Cumulative COVID-19 Case Rates among Those in Prison Staff and General Population

Appendix

A Additional data details

B Model details

B.1 Posterior predictive check

References

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